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IN THE U.S. PATENT AND TRADEMARK OFFICE

September 25, 2003

Applicant: Armin Diez

For : Fuel Cell Unit, Composite Block Of Fuel Cells  
And Method of Manufacturing A Composite Block  
Of Fuel Cells

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Before calculating the filing fee and prior to issuance of the first office action in the above-identified application, kindly enter the following amendment:

IN THE CLAIMS

1.(currently amended) Fuel cell unit, comprising: a cathode-anode-electrolyte unit, ~~and~~ a contact plate in electrically conductive contact with the cathode-anode-electrolyte unit, ~~wherein the fuel cell unit comprises and~~ a fluid guiding element being formed as a shaped sheet metal part and connected to the contact plate in a fluid-tight manner, forming a boundary of a fluid chamber having fluid flowing through it during operation of the fuel cell unit and being formed as a shaped sheet metal part wherein the fluid guiding element is provided with at least one fluid port in a fluid guiding area of the fluid guiding element to which the electrolyte of the cathode-anode-electrolyte unit does not extend, said fluid port forming a part of a fluid channel which extends through the fuel cell unit parallel to a stacking direction and which does not pass through the electrolyte of the cathode-anode electrolyte unit.

2. -31. (canceled)

32.(new) Fuel cell unit as defined in claim 1, wherein the cathode-anode-electrolyte unit is arranged on the fluid guiding element.

33.(new) Fuel cell unit as defined in claim 1, wherein the contact plate is designed as a shaped sheet metal part.

34.(new) Fuel cell unit as defined in claim 1, wherein the fluid guiding element and the contact plate are connected to one another by laser welding or by electron beam welding or by hard soldering.

35.(new) Fuel cell unit as defined in claim 1, wherein the fluid guiding element has an opening for the passage of contact elements to the cathode-anode-electrolyte unit.

36.(new) Fuel cell unit as defined in claim 1, wherein the fluid guiding element abuts on the cathode-anode-electrolyte unit via an electrically insulating seal.

37.(new) Fuel cell unit as defined in claim 36, wherein the seal comprises mica.

38.(new) Fuel cell unit as defined in claim 36, wherein the seal comprises a flat seal.

39.(new) Fuel cell unit as defined claim 36, wherein the seal comprises a coating on at least one of the fluid guiding element and the cathode-anode-electrolyte unit.

40.(new) Fuel cell unit as defined in claim 1, wherein the cathode-anode-electrolyte unit and the fluid guiding element are biased elastically against one another.

41.(new) Fuel cell unit as defined in claim 1, wherein the fluid guiding element is provided with a fluid supply channel opening and with a fluid discharge channel opening.

42.(new) Fuel cell unit as defined in claim 1, wherein the fuel cell unit comprises an electrically insulating fluid channel seal, the contact plate of the fuel cell unit abutting on the fluid guiding element of an adjacent fuel cell unit via said seal.

43.(new) Fuel cell unit as defined in claim 1, wherein the fuel cell unit comprises a fluid channel seal, the fluid guiding element of the fuel cell unit abutting on the contact plate of an adjacent fuel cell unit via said seal.

44.(new) Fuel cell unit as defined in claim 43, wherein the fluid channel seal comprises a coating on at least one of the fluid guiding element and the contact plate.

45.(new) Fuel cell unit as defined in claim 43, wherein the fluid channel seal comprises a flat seal.

46.(new) Fuel cell unit as defined in claim 43, wherein the fluid channel seal comprises at least two separate sealing elements.

47.(new) Fuel cell unit as defined in claim 43, wherein the fluid channel seal comprises a slide fit sealing.

48.(new) Fuel cell unit as defined in claim 43, wherein the fluid channel seal comprises a material viscous at the operating temperature of the fuel cell unit.

49.(new) Composite block of fuel cells, comprising a plurality of fuel cell units as defined in claim 1, said units following one another along a stacking direction.

50.(new) Composite block of fuel cells as defined in claim 49, wherein the composite block of fuel cells comprises at least one clamping element for bracing the fuel cell units against one another.

51.(new) Composite block of fuel cells as defined in claim 50, wherein the composite block of fuel cells comprises two end plates adapted to be braced against one another by means of the clamping element.

52.(new) Composite block of fuel cells as defined in claim 51, wherein at least one of the end plates has at least one fluid port.

53.(new) Composite block of fuel cells as defined in claim 49, wherein the fluid guiding element of at least one of the fuel cell units is connected to the contact plate of an adjacent fuel cell unit by way of flanging.

54.(new) Composite block of fuel cells as defined in claim 53, wherein a flange fold area engaging around the contact plate of the adjacent fuel cell unit is formed on the fluid guiding element of at least one of the fuel cell units.

55.(new) Composite block of fuel cell as defined in claim 54, wherein an electrically insulating fluid channel seal is arranged between the flange fold area and the contact plate of the adjacent fuel cell unit.

56.(new) Fuel cell unit as defined in claim 1, wherein the cathode-anode-electrolyte unit is held between the fluid guiding element and the contact plate.

57.(new) Fuel cell unit as defined in claim 48, wherein the fluid channel seal comprises a solder glass.

58.(new) Fuel cell unit as defined in claim 1, wherein said fluid guiding element and said contact plate form a two-part shell surrounding said cathode-anode-electrolyte unit of the fuel cell unit.

59.(new) Fuel cell unit as defined in claim 1, further comprising an electrically insulating fluid channel seal arranged between the contact plate of the fuel cell unit and the fluid guiding element of an adjacent fuel cell unit or between the fluid guiding element of the fuel cell unit and the contact plate of an adjacent fuel cell unit, said fluid channel seal surrounding a fluid port provided in the fluid guiding element or a fluid port provided in the contact plate and said fluid channel seal being spaced apart from the electrolyte of the cathode-anode-electrolyte unit of the fuel cell unit.

60.(new) Fuel cell unit as defined in claim 1, wherein said fluid guiding element forms a boundary of a fluid chamber having fluid flowing through it during operation of the fuel cell unit.

61.(new) Fuel cell unit as defined in claim 1, wherein said fluid guiding element is connected to the contact plate by way of welding or by way of soldering.

62.(new) Fuel cell unit as defined in claim 1, wherein said fluid guiding element and said contact plate define therebetween a fluid chamber having a combustible gas or an oxidation agent flowing through it during operation of the fuel cell unit.

63.(new) Fuel cell unit, comprising: a cathode-anode-electrolyte unit, a contact plate in electrically conductive contact with the cathode-anode-electrolyte unit, and a fluid guiding element being formed as a shaped sheet metal part and connected to the contact plate in a fluid-tight and electrically conductive manner, said fluid guiding element having an opening for the passage of contact elements arranged on a contact plate of an adjacent fuel cell unit to the cathode-anode-electrolyte unit of the fuel cell unit.

64.(new) Fuel cell unit as defined in claim 63, wherein the cathode-anode-electrolyte unit is arranged on the fluid guiding element.

65.(new) Fuel cell unit as defined in claim 63, wherein the contact plate is designed as a shaped sheet metal part.

66.(new) Fuel cell unit as defined in claim 63, wherein the fluid guiding element and the contact plate are connected to one another by laser welding or by electron beam welding or by hard soldering.

67.(new) Fuel cell unit as defined in claim 63, wherein the fluid guiding element has an opening for the passage of contact elements to the cathode-anode-electrolyte unit.

68.(new) Fuel cell unit as defined in claim 63, wherein the fluid guiding element abuts on the cathode-anode-electrolyte unit via an electrically insulating seal.

69.(new) Fuel cell unit as defined in claim 68, wherein the seal comprises mica.

70.(new) Fuel cell unit as defined in claim 68, wherein the seal comprises a flat seal.

71.(new) Fuel cell unit as defined in claim 68, wherein the seal comprises a coating on at least one of the fluid guiding element and the cathode-anode-electrolyte unit.

72.(new) Fuel cell unit as defined in claim 63, wherein the cathode-anode-electrolyte unit and the fluid guiding element are biased elastically against one another.

73.(new) Fuel cell unit as defined in claim 63, wherein the fluid guiding element is provided with a fluid supply channel opening and with a fluid discharge channel opening.

74.(new) Fuel cell unit as defined in claim 63, wherein the fuel cell unit comprises an electrically insulating fluid channel seal, the contact plate of the fuel cell unit abutting on the fluid guiding element of an adjacent fuel cell unit via said seal.

75.(new) Fuel cell unit as defined in claim 63, wherein the fuel cell unit comprises a fluid channel seal, the fluid guiding element of the fuel cell unit abutting on the contact plate of an adjacent fuel cell unit via said seal.

76.(new) Fuel cell unit as defined in claim 75, wherein the fluid channel seal comprises a coating on at least one of the fluid guiding element and the contact plate.

77.(new) Fuel cell unit as defined in claim 75, wherein the fluid channel seal comprises a flat seal.

78.(new) Fuel cell unit as defined in claim 75, wherein the fluid channel seal comprises at least two separate sealing elements.

79.(new) Fuel cell unit as defined in claim 75, wherein the fluid channel seal comprises a slide fit sealing.

80.(new) Fuel cell unit as defined in claim 75, wherein the fluid channel seal comprises a material viscous at the operating temperature of the fuel cell unit.

81.(new) Composite block of fuel cells, comprising a plurality of fuel cell units as defined in claim 63, said units following one another along a stacking direction.

82.(new) Composite block of fuel cells as defined in claim 81, wherein the composite block of fuel cells comprises at least one clamping element for bracing the fuel cell units against one another.



83.(new) Composite block of fuel cells as defined in claim 82, wherein the composite block of fuel cells comprises two end plates adapted to be braced against one another by means of the clamping element.

84.(new) Composite block of fuel cells as defined in claim 83, wherein at least one of the end plates has at least one fluid port.

85.(new) Composite block of fuel cells as defined in claim 81, wherein the fluid guiding element of at least one of the fuel cell units is connected to the contact plate of an adjacent fuel cell unit by way of flanging.

86.(new) Composite block of fuel cells as defined in claim 85, wherein a flange fold area engaging around the contact plate of the adjacent fuel cell unit is formed on the fluid guiding element of at least one of the fuel cell units.

87.(new) Composite block of fuel cells as defined in claim 86, wherein an electrically insulating fluid channel seal is arranged between the flange fold area and the contact plate of the adjacent fuel cell unit.

88.(new) Fuel cell unit as defined in claim 63, wherein the cathode-anode-electrolyte unit is held between the fluid guiding element and the contact plate.

89.(new) Fuel cell unit as defined in claim 80, wherein the fluid channel seal comprises a solder glass.

90.(new) Fuel cell unit as defined in claim 63, wherein said fluid guiding element and said contact plate form a two-part shell surrounding said cathode-anode-electrolyte unit of the fuel cell unit.

91.(new) Fuel cell unit as defined in claim 63, further comprising an electrically insulating fluid channel seal arranged between the contact plate of the fuel cell unit and the fluid guiding element of an adjacent fuel cell unit or between the fluid guiding element of the fuel cell unit and the contact plate of an adjacent fuel cell unit, said fluid channel seal surrounding a fluid port provided in the fluid guiding element or a fluid port provided in the contact plate and said fluid channel seal being spaced apart from the electrolyte of the cathode-anode-electrolyte unit of the fuel cell unit.

92.(new) Fuel cell unit as defined in claim 63, wherein said fluid guiding element forms a boundary of a fluid chamber having fluid flowing through it during operation of the fuel cell unit.

93.(new) Fuel cell unit as defined in claim 63, wherein said fluid guiding element is connected to the contact plate by way of welding or by way of soldering.

94.(new) Fuel cell unit as defined in claim 63, wherein said fluid guiding element and said contact plate define therebetween a fluid chamber having a combustible gas or an oxidant agent flowing through it during operation of the fuel cell unit.